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AUTHOR Blank-Libra, Janet
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ABSTRACT

This paper investigates the need for the infusion of critical thinking instruction into the teaching of the journalistic practice of questioning. Given research done in the area of questioning, it seems probable that critical thinking instruction could enable students to employ self-directed thinking skills that would allow them to ask better questions. The paper offers a description of Bloom's Taxonomy and how it might be used to facilitate better development of students' questioning abilities. (Contains a table of data and 55 references.) (Author/CR)

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Bloom's Taxonomy and Journalism Conjoin to Improve Students' Questioning Practices

Janet Blank-Libra

Augustana College, Sioux Falls, SD

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Running Head: BLOOM'S TAXONOMY AND PRACTICE OF QUESTIONING

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Abstract

This paper investigates the need for the infusion of critical thinking instruction into the teaching of the journalistic practice of questioning. Given research done in the area of questioning, it seems probable that critical thinking instruction could enable students to employ self-directed thinking skills that would allow them to ask better questions. This paper offers a description of Bloom's Taxonomy and how it might be used to facilitate better development of students' questioning abilities.

Bloom's Taxonomy and Journalism Conjoin to Improve Students' Questioning Practices

Introduction and Statement of Purpose

The adage that there is no such thing as a bad question simply does not hold true in journalism. In the course of an interview, a journalist may ask countless bad questions, all of which may encumber his or her ability to write a good story. One would expect that journalism educators would strive, therefore, to promote skilled questioners. And, certainly, many educators do so. It has been noted, in fact, that journalism programs are giving greater attention to the interview. Nonetheless, Grunig (1990), though noting that courses on how to conduct an interview have increased in number since 1986, was once "surprised to learn how few university classes concentrate on the interview." Grunig goes on to note that "reporting books carry a chapter, at best, on conducting interviews. Few texts are devoted to the subject." Grunig also notes that articles on the teaching of interviewing are "virtually nonexistent" in scholarly journals (p. 59).

But Grunig needs to go further. That the teaching of interviewing must be given more attention is certainly true, but what is absent even more so than extensive instruction in interviewing are discussions of the *practice of questioning itself*. And that absence is what this paper concerns itself with.

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In what ways can journalism educators help students become good questioners, an aptitude that will obviously be at the heart of their ability to succeed?

Using Bloom's Taxonomy, I investigate here the notion that journalism education must give attention to its students' mental processes and ultimately to their questioning practices. Ultimately, my argument becomes a call for the infusion of critical thinking instruction into the classroom. Numerous studies, which will be reviewed in a later section of the paper, have revealed that students, throughout their elementary and high school educations, are taught to be passive recipients of questions, not active seekers of in-depth knowledge. Journalism students, unfortunately, have not been immune from this experience; thus, it becomes the responsibility of journalism educators to examine their students' needs in this critical area.

The individual who wishes to penetrate the world's complex realities, in as much as one can, will have to strengthen or develop thinking skills of an equally complex nature. The most effective individual will be the one who has reached a state of metacognition, that point at which an individual is able not only to use higher-order thinking processes but also to know when those are being used and thus to assume the power to change or select a way of thinking to suit a given situation. Halpern (1989) defines metacognition as "what we know about

what we know, or, in more formal language, our knowledge about knowledge" (p. 31). Costa (1984) defines metacognition as "our ability to plan a strategy for producing what information is needed, to be conscious of our own steps and strategies during the act of problem solving and to reflect on and evaluate the productivity of our own thinking" (p. 57).

Are journalism students mindful of the mental processes and products of their minds? Do they recognize that they possess an "inner language" (Costa, 1984, p. 57)? This paper applies educational theories and principles discussed by Bloom and his associates to a problem that one can, given the research on questioning, hypothesize exists for journalism students, whose educations as children have not differed from the educations of others. It is, simply put, possible that the average journalism student comes out of a past that has disabled his or her ability to function as a strong questioner. Bloom's Taxonomy, or perhaps other equally useful tools, might effectively help students address possible deficits, ones acquired over time. Though learning differences are difficult to measure, especially given the complexity of variables such as would be studied in this situation, it is possible that future studies could systematically examine differences the employment of a strategy such as Bloom's Taxonomy might make.

Bloom's Taxonomy sets forth six levels of thinking: knowledge, comprehension, application, analysis, synthesis, evaluation. Bloom, Madaus and Hastings' philosophy (1981) of education sets well the tone for this paper:

> Education for us is a process which changes the learners. Given this view we expect each program, course, and unit of education to bring about some significant change or changes in the students. Students should be different at the end of a unit from what they were before it. Students who have completed a unit of education should be different from those who have not had it. Although it is true that some of the differences in a learner between the beginning and end of secondary school are to be attributed to maturation, growth, and the influences of varied experiences, we are here concerned with the changes produced by education and in the last analysis determined by the school, curriculum, and instruction. (p. 5)

They add that such changes can be examined thoroughly only if evaluation takes place: "Evaluation, as we see it, is the systematic collection of evidence to determine whether in fact certain changes are taking place in the learners as well as to determine the amount or degree of change in individual students" (p. 5). The taxonomy offers students a fairly concrete way in which to develop and evaluate their thinking processes.

What changes can journalism educators promote in their students? What are the implications for those journalism students who do reach a state of metacognition, not only for their lives as reporters and writers but for their approach to thinking and to society in general? Further, if a student learns to demystify the thinking process, to conjure up a sort of cerebral clarity, to enjoy--in short--the state of metacognition, then is it not likely that he or she will be more able to ask good follow-up questions in the course of an interview? And a question that must be asked: How important are the potential social consequences of educating our students to understand and monitor their thought processes? All of these questions cannot be considered seriously within the limits of this paper, but all should be posed and ultimately answered.

I propose that the taxonomy, which is generally wielded by educators as a testing tool, be put into the hands of students, who can then grapple with self-evaluations of their mental processes. Typically, Bloom's Taxonomy allows teachers to define more easily their educational objectives. In a parallel manner students can be offered the taxonomy as a means by which they can define their own educational objectives--how to produce good questions and ultimately better stories. If students learn to recognize ways of thinking, they may be better able to employ them in directed, deliberate ways.

Before going further the reader should know that Bloom (1956) labeled the latter five categories of the taxonomy "intellectual abilities and skills." He acknowledged that others might label them collectively as critical thinking or reflective thinking (p. 38). He defines the collective essence of these categories as follows:

> The most general operational definition of these abilities and skills is that the individual can find appropriate information and techniques in his previous experience to bring to bear on new problems and situations. This requires some analysis or understanding of the new situation; it requires a background of knowledge or methods which can be readily utilized; and it also requires some facility in discerning the appropriate relations between previous experience and the new situation. (p. 38)

One might compare that definition with one of critical thinking offered by Ruggiero (1990):

> The word *critical* often carries a negative connotation, implying excessive faultfinding. That connotation does not apply to the term critical thinking, which refers to the process of evaluating ideas. When we think critically, we judge the accuracy of statements and the soundness of the reasoning that leads to conclusions. Critical thinking helps us interpret complex ideas,

> appraise the evidence offered in support of arguments, and distinguish between reasonableness and unreasonableness. Both problem solving and decision making depend on critical thinking, as does the meaningful discussion of controversial issues. (p. 14)

Ruggiero notes that a key "to proficiency in critical thinking is skill in asking relevant questions" (p. 14). He goes further: "Critical thinkers also use questions philosophically: in other words, to wonder about issues, probe them more deeply than is customary, and look for new insights" (p. 15). As the 1980s progressed so did education's interest in critical thinking. Journalism education must now progress in the same way. It is possible that to teach students Bloom's Taxonomy and then allow them to use it would be to give them a way to create good questions, using a time-honored critical thinking tool. Since journalists relive the process of interviewing regularly, it is likely that students would mature in their thinking processes, thus exhibiting the change of which Bloom and his colleagues speak.

Gall (1970) speaks of the interest of educators more than two decades ago to give more attention to student questions, not teacher questions. She says, "Certainly, it seems a worthwhile educational objective to increase the frequency and quality of students' questions in the context of classroom interaction.

However, research findings consistently show that students have only a very limited opportunity to raise questions" (p. 715). Shodell (1995) encourages science educators to "develop in students an appreciation for the formulation of a good question as a central creative act--one accessible to all students . . . " (278). In the last two decades the critical thinking movement has begun to effect change. More attention is being given to the role of questioning in a student's critical thinking capacities. Fairbairn (1987) says it well: "The primary purpose for questioning is to promote thinking" (19). Costa (1984) adds to the enthusiasm: "Metacognition is an indicator of the "educated intellect" and must be included in the curriculum if thinking is to become a durable reality for the 90s and beyond" (p. 62). In journalism, it can be argued, a reporter not only promotes his or her own thinking but, to some extent, the thinking of a source. Prior to giving further justification for the urgency of this topic, a discussion of Bloom's Taxonomy is necessary. A discussion of how journalism students might use Bloom's Taxonomy will follow a description of the taxonomy, which should supply a contextual foundation for the reader, and a review of studies done on students' questioning backgrounds and abilities.

Bloom's Taxonomy

Bloom and his committee of associates in 1956 published their landmark work, *Taxonomy of Educational Objectives, Cognitive and Affective Domains.* (The latter domain will not be discussed in this paper.) The committee desired to build a taxonomy of educational objectives in order "to provide for classification of the goals of our educational system" (p. 1). The committee's intended audience included "teachers, administrators, professional specialists, and research workers who deal with curricular and evaluation problems" (p. 1). They hoped that teachers building curriculums would turn to the taxonomy "as a source for possible educational goals or outcomes in the cognitive area" (p. 2). Should educators in general adopt the precepts of the taxonomy, they would also be adopting a uniform, consistent manner in which to approach testing and evaluation, and in doing so would additionally adopt a common ground for communication.

Bloom notes that "the use of the taxonomy as an aid in developing a precise definition and classification of such vaguely defined terms as 'thinking' and 'problem solving' would enable a group of schools to discern the similarities and differences among the goals of their different instructional programs. They could compare and exchange tests and other evaluative devices intended to determine the effectiveness of

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these programs" (p. 10). (In keeping with most discussions of the taxonomy I will attribute information from the *Taxonomy of Educational Objectives* primarily to Bloom, who served as editor for the publication.) And perhaps most importantly, and certainly of great concern to this paper, was the committee's hope that such communication would lead to understanding "more completely the relation between the learning experiences provided by these various programs and the changes which [took] place in their students" (p. 10).

Bloom's book provides teachers with the classification system for objectives, copious examples, and a discussion of the problems of measuring selected objectives. It is not a discussion of methods, though its current use often sees it as an aid or component of methods construction. Suggestions for measuring each area of the taxonomy are offered, as are examples of test items used by others. Bloom used the taxonomy to analyze "the kinds of learning that take place in class discussions" (p. 3). The committee recognized the value of such a taxonomy in considerations of the individual: "Equally important, the psychological relationships employed by the classification scheme are suggestive of psychological investigations which could further our understanding of the educational process and provide insight into the means by which the learner changes in a specified direction" (p. 3).

Bloom stresses that the goal should be to classify intended behaviors of students, "the ways in which individuals are to act, think or feel as the result of participating in some unit of instruction," recognizing, of course, that "the actual behaviors of the students after they have completed the unit of instruction may differ in degree as well as in kind from the intended behaviors specified by the objectives" (p. 12).

Before going further, it is necessary to examine Bloom's definitions of the cognitive and affective domains, for they differ somewhat from more commonly accepted definitions. Bloom defines the cognitive domain as that which "includes those objectives which deal with the recall or recognition of knowledge and the development of intellectual abilities and skills" (p. 7). Also defined in a less standard way by Bloom is the affective domain: "It includes objectives which describe changes in interest, attitudes, and values, and the development of appreciations and adequate adjustment" (p. 7). The Bloom committee's definition of the affective domain would be included by many within the definition of the cognitive domain, a deviation found objectionable and unacceptable by many.

Other terms also require definition. A taxonomy, according to Bloom (1956), orders "phenomena in ways which will reveal some of their essential properties as well as the interrelationships among them" (p. 17). The committee uses the

terms classification and taxonomy fairly interchangeably, but notes that "a classification scheme may have many arbitrary elements, a taxonomy scheme may not" (p. 17).

In order to secure a working taxonomy Bloom and the committee had to derive from their knowledge of mental processes and educational objectives an organization of symbols that would represent what was being done in testing and measurement and what needed to be recognized as important to the education of individuals and to the development of their mental processes. Bloom attributes the handbook to the thinking of more than thirty people who attended taxonomy conferences, to the work of test constructors, curriculum workers and teachers, and to several hundred readers who gave "criticisms, suggestions and illustrative materials" (p. 9). Out of their working consensus came a taxonomy built of major classifications and subclassifications, such that any educational goal, the committee believed, could be classified and measured. The major classifications and their subcategories are ordered hierarchically from lower-level thinking skills to higher-level thinking skills. The reader should refer to Table 1 for an overview of the Bloom categories.

Four guiding principles denoted by Bloom lend credibility to the work. First, the subcategories as much as possible represent the distinctions teachers make regarding student

behavior. Second, the taxonomy was to be logically developed and internally consistent. Third, it was agreed that "the taxonomy should be consistent with [the] present understanding of psychological phenomena" and fourth, "that the classification should be a purely descriptive scheme in which every type of educational goal [could] be represented in a relatively neutral fashion" (p. 14). One cognitive goal would, therefore, not be seen as carrying more value than another. This principle has been attacked by critics who claim that value is inherent in any classification that is hierarchically ordered, an issue which will be discussed in the criticisms section of this paper. For now it is sufficient to note that the taxonomy is ordered such that each classification within it "demands the skills and abilities which are lower in the classification order" (p. 120). Gall (1984), who has done extensive research in questioning, reduces Bloom's system to two areas: fact and higher cognitive. Of these, the scholar says, "Fact questions require students to recall previously presented information, whereas higher cognitive questions require students to engage in independent thinking" (p. 40).

Legitimizing the need for change

Numerous studies have revealed the unfortunate truth that our students are taught to be passive recipients of questions, not active seekers of knowledge and truth. Some of the concern

also issues from a more instinctual base: Educators simply know that all is not as it should be. Logan (1984) reflects upon the problem:

> I discover for instance that many of my colleagues from virtually all fields are disturbed by a lack of active curiosity about the world, and the world of knowledge, on the part of students. In fact, the more I observe and reflect, the more the decline in the concept of the mind as an active instrument seems to be at the heart of the problem; there is, in other words, a decline in the power of ideas and in the notion that one who merely thinks can be in fact an instrumental rather than a necessarily dilettantish figure, and one who has a powerful tool to shape the world for the better. (p. 91)

If Logan's perceptions are correct, journalism educators need to worry, for if there is one thing that a prospective journalist cannot be it is a passive consumer.

But more startling than the provocative comments of Logan are the results of studies, initiated by a burgeoning interest in questioning in the 1980s, which reveal two areas of concern: First, teachers ask most of the questions in classrooms, a truth that surprises few, and second, teachers ask questions primarily aimed at eliciting lower-level responses (knowledge

or comprehension) from students. Gall (1984) provides evidence to support the notion that higher-level questions will provoke higher-level responses from students. The same principle, of course, applies to lower-level questions. Bloom (1988) says that his graduate students have done a series of studies which have supported the same idea. Woolever (1987) cites at least four studies that support the hypothesis that teachers typically ask only lower-level questions, the sort that do not ask students to analyze, synthesize, or evaluate but merely to recall facts. Daines (cited in Kloss, 1986) notes that 93 percent of questions asked in elementary and secondary classrooms are at the level of comprehension. Acheson and Gall (1987) discuss three dissertations, one of which found that teachers asked an average of 348 questions each day and another which found that "elementary school teachers asked an average of 180 questions each in a science lesson" (p. 84). The third found that fifth grade teachers asked an average of 64 questions in a half-hour social studies lesson. All three studies were conducted in the 1960s. Nonetheless, experts support their startling results yet today. After reviewing various studies, Dillon (1990) concluded that the following rates of questioning in elementary and secondary classrooms were accurately descriptive:

> [O]ver the class hour, eighty-four questions from the

> teacher and two questions from all the students combined in the class; over the school year, one question per month per pupil. (p. 7)

In short, as Ciardiello (1993) puts it, "Most students do not ask higher-level cognitive questions in class; they believe that questioning is the job of the teacher" (p. 312).

How does this relate to journalism students? Journalism students come into the classroom, often receive minimal *instruction* in the practice of questioning and are expected to perform at least decently as interviewers. Consider their foe: a past which required them not to become proficient as questioners, but as respondents; a past that introduced them not to higher-level questioning habits but to knowledge-recall habits. The truth is that many of our students were taught to be passive, a characteristic which conflicts with the very foundation of the *act* of journalism. What are further implications? If students are not taught or even modeled the higher-level questioning strategies, then they may not transfer those strategies *deliberately* into their interviewing. If, as Gall's work has supported, higher-level questions produce higher-level answers, then these students will be unlikely to ask questions that will produce higher-level responses. Consequently, logically, their stories will lack the excellence of depth that a more varied approach to thinking should produce.

Grow (1991) writes of what he calls higher-order skills. Among these skills he lists self-starting, problem-solving, critical thinking, self-evaluation, and self-regulation. His comments should provide catalysts for students seeking jobs: "Higher-order skills are common, easily-recognizable traits in successful people in our field. When integrated into a functioning person, these higher-order skills add up to a single quality, which psychologists and adult educators call 'self-direction'" (p. 57). Mencher (1987) notes, "Reporters know that the disciplined and trained mind can find the extraordinary, and that all that's required to communicate it is simple, direct language . . ." (p. 16).

Educators express concern about the state of thinking in journalism today. Lewis (1986), herself a retired journalism educator, takes issue with the state of journalism education, saying: "Journalism education ought to be training young people to think critically and evaluate information, but I discovered instead that most university programs are merely trade schools" (p. 47). Hipsman and Wearden (1990) have found that many editors are giving skills tests to potential employees, having decided that writers are often under-prepared for the profession and that journalism education may be at fault. Skills tested ranged from grammar and punctuation to writing exercise and reporting skills (p. 81). They found that eighty-six

papers, or 55.8 percent of respondents, tested job applicants. They compared their study to others and concluded that "there may be a general trend toward skills testing at U.S. dailies" (p. 82). A need for change is implied.

Criticisms of Bloom

Benjamin Bloom has enjoyed incredible popularity since the 1950s. The editor for *Principal* lauds him as a leader:

> To many in education, Benjamin S. Bloom is a legendary figure, the author of the 1956 landmark work *Taxonomy of Educational Objectives* and a man who has been hailed as the "Father of Mastery Learning." (Greene, 1986, p. 4)

Some seem simply to take for granted that the work done by Bloom and his committee is the standard against which all critical thinking applications must be held. The Texas Education Agency was alarmed by reports that standard test scores were declining nationwide. Its director of exemplary programs affirmed its fears: "This nationwide scrutiny of test scores revealed the decline of achievement in higher order thinking skills such as inference, analysis, interpretation, and problem solving" (Garcia, 1988, p. 4). The agency undertook an investigation of its own and compiled the results in several papers. In one such paper, Garcia notes that his dissertation, *Accountability and Assessment: A Policy Analysis of Minimum*

Competency Testing in Texas, showed an increase in overall achievement scores in the state. That increase, however, was not accompanied by similar gains in higher-order objectives (p. 4). He found that eight of 22 objectives administered to Texas students that were not mastered consistently were ones that required higher-order thinking (p. 5). Later in his article he directs the reader to another article in the collection which offers an illustration of Bloom's Taxonomy as a "framework for thinking" (p. 9). The director of business education for the state clearly considers Bloom's work to be uncontested:

> By using Bloom's Taxonomy of Educational Objectives, included in this article to provide a common understanding of terms for levels of thinking, it is clear that only the lowest level of thinking is assessed when recall questions are asked. Or, that a higher level is assessed when analysis questions are asked. (Wiedemann, 1988, p. 124)

In the foreword to the compendium the deputy commissioner for Curriculum and Program Development refers to findings of the National Assessment of Educational Progress, which indicated "that the greatest declines have occurred among items testing the higher level skills: analysis, synthesis, and evaluation"--terminology clearly derived from Bloom's Taxonomy (Bergin, 1988, p. 1).

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Others, however, are less inclined to praise Bloom. Calder (1983) speaks of the "spell" the taxonomy wove over teachers and then proceeds to do his best to break the pattern of enchantment (p. 291). One of his first criticisms is that the taxonomy makes invalid distinctions between cognitive, affective, and psychomotor domains. He says, "Although Bloom concedes that many objectives form an amalgam of cognitive, affective, and motor elements, he does not appreciate that the essence of virtually every objective is cognitive" (p. 292). Calder believes that the affective is "best construed as an emotional charge attached to a cognitive core" (p. 292). His definition certainly is more akin to the way modern psychology defines the cognitive domain. Calder most faults the Bloom system, however, for what he calls a "hazy definition of categories" (p. 292). He argues that knowledge is confused with comprehension and application, that comprehension (particularly its subcategory translation) is confused with application, that the role of application in problem-solving is "suspect" (p. 294), that translation is confused with analysis of elements, that interpretation is confused with analysis, and that analysis is confused with evaluation (pp. 292-297). His criticisms do not stop there. He further states that the categories of the taxonomy "do not denote homogeneous types" (p. 297) of objectives, that "the structural basis of the taxonomy

is inconsistent" (p. 298), and that it is actually debatable whether Bloom's Taxonomy is indeed a true taxonomy (p. 299).

Paul (1985) expresses concern that Bloom's Taxonomy is limited in the ways in which it can be applied to critical thinking curriculums. Conversely, he acknowledges its place in education when he says, "It would be difficult to find a more influential work in education today than *The Taxonomy of Educational Objectives*" (p. 36). Further, he calls the taxonomy a "remarkable tour de force, a ground-breaking work filled with seminal insights into cognitive processes and their interrelations" (p. 39). Nevertheless, he frowns upon the fact that a generation of teachers has now been introduced to the taxonomy and has been "persuaded that the Taxonomy's identified higher-order skills of analysis, synthesis, and evaluation are essential to education at all levels" (p. 36). For these teachers, he says, critical thinking has become synonymous with the taxonomy. He faults the hierarchy as being one-way, saying that knowledge is not always a simpler behavior than comprehension and so on.

Paul argues that teachers must take at least one college course in critical thinking. In addition, he argues, and his is a critical argument, that students must become not only familiar with the terms of the taxonomy but "comfortable with using them as they think their way through analytic problems" (p.

37). In short, students must reach a level of metacognition. Contrary to what Paul's criticism implies, Bloom (1956) does seem to speak of this state when he asserts that a "major thread running through all the taxonomy appears to be a scale of consciousness or awareness" on the part of the person displaying the behavior (p. 19).

What seems to be Paul's primary concern, however, is Bloom's treatment of the category of knowledge. Paul asserts that "those who advocate critical thinking instruction hold that knowledge is not something that can be given by one person to another" (p. 38). Rather, knowledge, as Paul defines it, is "a distinctive construction by the learner, something that issues out of a rational use of mental processes" (p. 38). The Bloom committee, on the other hand, defines knowledge much differently but quite clearly in the *Taxonomy* (1956):

> For our taxonomy purposes, we are defining knowledge as little more than the remembering of the idea or phenomenon in a form very close to that in which it was originally encountered. (pp. 28-29)

Paul counters this definition further by saying, "The writers of the taxonomy erroneously assume that the only issue here is the relative value of the knowledge, not whether what is simply memorized is properly to be called knowledge at all" (p. 38). It

should be noted that the editors of *Educational Leadership* invited Bloom to respond and he did so as follows:

> We intended the Taxonomy as a method of classifying educational objectives, educational experiences, learning processes, and evaluation questions and problems. We did not intend to provide a constraint on educational philosophy, teaching methods, or curriculum development. (p. 39)

Linking Bloom and the Classroom

This section of the paper is directed toward establishing a link between Bloom's Taxonomy and its potential as *at least one* component of critical thinking in the journalism classroom.

To enable students to examine their thought processes, I require them to evaluate all questions asked within one interview, which they will have taped and transcribed. (I do not require that source responses be transcribed in full.) Students use specific evaluation criteria to complete this assignment. As part of the self-evaluation, which I have them do early in the semester of a basic news reporting and writing course, the student notes the level of each question he or she produced for the initial query list, as well as the levels of all questions generated during the interview. My first-year students have generally found the following to be true: First, they overuse words such as "like," "um," and "you know.

Second, they find it difficult to ask higher-level questions, partly because they are nervous, they say, and partly because they simply find doing so difficult. Third, they discover specific ways in which they may be able to effect change in their abilities. Through various exercises, I attempt to guide them to a greater comfort level with their thinking.

Texts on Questioning

The work being accomplished in the area of questioning is massive in areas other than journalism, particularly within education, clinical settings, courtrooms, and personnel settings. A review of *Journalism Educator* from 1975 to the present yielded little to indicate an interest within the discipline in the practice of questioning as a critical thinking activity. Here, I will note some of the books, classroom textbooks aside, that have been devoted to the concept and practice of questioning in journalism and in the classroom.

Such books abound. Here are but a few: *Classroom Questions, What Kinds* by Norris Sanders (Sanders bases his work on Bloom's Taxonomy.); *Handbook of Effective Questioning Techniques* by Patricia Blosser; *Developing Questioning Techniques* by Arthur A. Carin and Robert B. Sund (Carin and Sund also base much of their thinking in Bloom's Taxonomy and, in fact, devote approximately 50 pages of their book to questioning techniques that use his categories of the cognitive

domain.); *Questioning: A Path to Critical Thinking* by Leila Christenbury and Patricia Kelly (This book includes a critique of Bloom.); *Strategic Questioning* by Ronald Hyman (This author holds that Bloom's work is seriously flawed.); *Involving Students in Questioning* by Francis Hunkins (Approximately 82 pages of this 242-page book apply questioning strategies to Bloom's definition of the cognitive domain.); *Questioning and Teaching* as well as *The Practice of Questioning* by J. T. Dillon (Dillon is one of the foremost thinkers in this area.).

A Call to Action

I believe that the discipline of journalism must further articulate the needs of its students. Almost certainly, a study of the most acclaimed journalists today would reveal that each possesses a strong metacognitive structure. To say there is not time for straightforward critical thinking instruction is to engage in teaching habits that may be deleterious to students' mental potential. Somehow, such basic skill teaching is always considered to be someone else's job. Journalism educators must take responsibility for their own. Nature does not provide human beings with the ability to question well. An innate curiosity will take one only so far. We are obligated to lead our students toward confronting their thinking abilities and, if necessary, toward making serious, life-altering, changes.

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Table 1

A Summary of Bloom's Taxonomy, Including Sub-categories

Domain	Terminal Behavior
Knowledge	•Knowledge of specifics
	•Knowledge of terminology
	•Knowledge of specific facts
	•Knowledge of ways and means of dealing with specifics
	•Knowledge of conventions
	•Knowledge of trends and sequences
	•Knowledge of classifications and categories
	•Knowledge of criteria
	•Knowledge of methodology
	•Knowledge of the universals and abstractions in a field
	•Knowledge of principles and generalizations
	•Knowledge of theories and structures
Comprehension	•Translation
	•Interpretation

	•Extrapolation
Application	•No specific sub-categories
Analysis	•Analysis of elements
	•Analyses of relationships
	•Analysis of organizational principles
Synthesis	•Production of a unique communication
	•Production of a plan, or proposed set of operations
	•Derivation of a set of abstract relations
Evaluation	•Judgments in terms of internal evidence
	•Judgments in terms of external criteria

This summary is taken from the "Condensed Version of the Taxonomy of Educational Objectives" (Bloom, 1956, pp. 201-207).

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